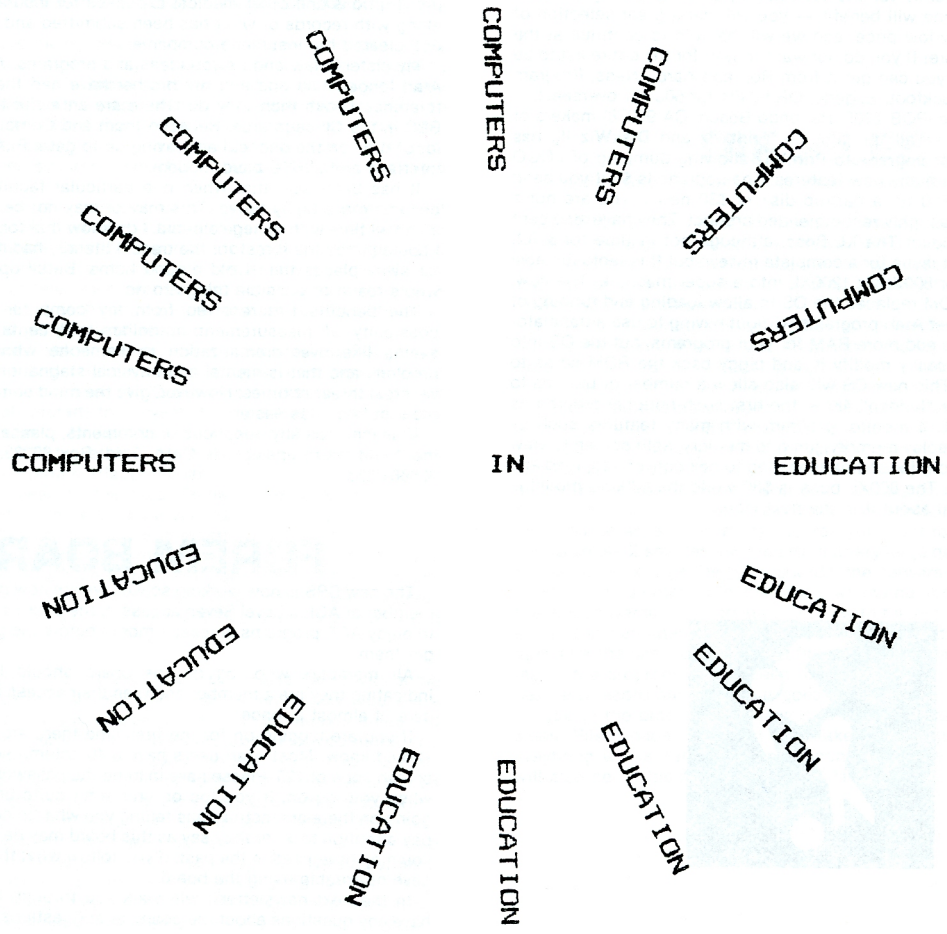
ATARI COMPUTER ENTHUSIASTS

3662 Vine Maple Dr. Eugene OR 97405

OCTOBER, 1984

Editors: Mike Dunn, Jim Bumpas, Larry Gold



News and Reviews

by Mike Dunn, Co-Editor

Many people from all over are upset about my editorial last month. I do not know what will happen with Atari; everyday the newspapers such as the "Wall Street Journal" have articles contradicting the one before. The next few months should be interesting indeed — be sure to read Jim Bumpas' article about his trip to the bay area.

This issue is a special one devoted to handicapped, education, and learning problems. We didn't get as much as we wanted, but did get some nice articles and programs. In addition to Stan Ockers Bibliography, other resources include **The Computing Teacher**, Journal of The International Council for Computers in Education (U. of Oregon, 1787 Agate St., Eugene, OR 97403-1923, $21.50 yr) and **The Digest of Software Reviews: Education** (School and Home CourseWare, Inc., 301 West Mesa, Suite N, Fresno, CA 93704, Quarterly $57.95). We want to do a special issue 4 times a year — the next one will be on **Hardware** — interfacing, unusual applications, peripherials you have made or designed — please send in your articles by January 1985.

Do you want to be a **BugBuster**? We want to start a **HELP** group of our members to help other members. Dale Lutz, a member of ACE in Canada coined the name — if you want to give advice to our members and share your knowledge with others, please send your name, address, phone number, times of the day which are convenient to you, and your area of expertise. You too can become an official ACE BugBuster! This is to try to take the place of the now defunct Atari Help line — we will print the list in the next issue, and we want people from all over the world if possible!

Starting this issue, we will print out the entire ACE Library Listings. This issue will feature the various Education disks as well as some of the other new ones. Next issue will list some of the older ones. If you order now, you can get an official ACE Iron-on logo, and/or have the "freeware" program by Richard Kalagher **The Home Financial Database** included on the back side of a disk — but ask for it. **We really need the money for the Newsletter, so PLEASE try to order something.** Everyone will benefit — you will get a great selection of programs at a very low price, and we will be able to continue at the same level as before! If you do not want to wait for the entire list to be in the newsletter, you can get it from Ron and Aaron Ness, Program Librarians, 374 Blackfoot, Eugene, OR 97404 for 50c ($1 overseas).

Allen Macroware (POB 2205, Redondo Beach, CA 90278) makers of two programs I use all the time — **PrintWiz** and **DiskWiz II[, has announced a major upgrade to PrintWiz** allowing dumping of LOGO screens as well as many new features. The upgrade is $5 if you send your old disk in, $10 for a backup disk or $30 new if you are not a present owner — a highly recommended product. They have also sent us their latest product **The XL Boss**, although not in time for a full review — see next issue for a complete review, but this fantastic new product turns your 800XL or 1200XL into a super machine. The new, easily installed ROM replaces the OS to allow loading and running of most all of the older Atari programs without having to use a translator disk. You can also add more RAM for your programs, put the OS into RAM so you can easily modify it, and piggy back the ROM so as to use the new OS. This new OS will also allow a number of utilities to be loaded into the "hidden" 4K — the first such optional program is the **MacroMon XL**, a monitor program with many features such as allowing you to display memory, jump to memory, split screen to view two parts of memory for comparison, dec to hex conversion, read and write sectors, etc. The 800XL boss is $80 while the 1200XL model is $10 more. Read all about it in the next issue.

ME AND BETSY

I have been asked several times, by different people, to write an article about how a computer has helped me. Being handicapped, quite a few things aren't quite as easy for me as they are for others. Several years ago, I decided I wanted a computer, so I started some market research into what (at the time) was a rapidly growing appliance industry. The choices I had then were fewer than they are today. Bear in mind, we are talking of two and a half years ago. There was the Apple, TRS-80, TI, and (of course) the Atari.

Having Rheumatoid Arthritis, there were several things to keep in mind other than just looks and price. An uncomfortable position of the hands when using the keyboard creates stress in the muscles around a weakened joint making typing on a computer as bad as typing on a typewriter, something I wanted to get away from. Effort needed to use the keys is also important, since after typing for awhile, even a little extra pressure against the joints can create problems.

Next I considered cost, software availability, features, expandibility, and general afterpurchase support. I decided on the Atari 800, which at the time was $700 on sale with 48k.

I became 100• disabled in 1974-5. For a long time I sat around not doing an awful lot. My outlook has changed since using my computer. I don't sit home anymore. By using Betsy, my brain was restarted. I realized my disability doesn't mean I'm a human vegetable. My curiosity was aroused. I now swim about 9 hours a week.

I got an 810 disk drive, a 1025 printer, an MPP-1000c modem, and am getting an Indus GT. I have joined three well run and helpful user groups: CLAUG, ACE, and MACE. I've been doing transposition work for the CLAUG newsletter for about 5 months. I've even started back to college part time to get my degree in couselling and personnel management. I was recently appointed a handicapped consultant to local government.

I now have all my books, papers, photographs, records, and my parents videotapes categorized and filed on disk. We're working on a complete household inventory. I also keep an up to date record of all prescriptions and other medical expenses for insurance submission, along with records of what has been submitted and what has (or has not) cleared the insurance companies.

My sister-in-law and I swap ideas and programs. As I have had my Atari longer than she and my brother have had theirs, I have more reference books than they do. There are an awful lot of really good BBS in the Chicago area. Between them and CompuServe, I spend a lot of time on the phone. I am saving up to get a PLATO cartridge, an interface and a 1200 baud modem.

It has been said that when one particular faculty goes, the rest become more finely tuned. This may or may not be. I am still having an awful time with college algebra. I do know that for the longest time, I couldn't see the forest for the trees. I literally had more fun going to far away places than I did around home. Betsy opened up another whole realm of possible things to do.

The benefits I've received from my computer are beyond the possibility of measurement in dollars and cents. The alternative seems like over dramatization to someone who hasn't had the problem, and that is mental and physical stagnation. They become a very real threat at times. However, give the mind something to do, and the rest becomes easier.

If anyone has any questions or comments, please feel free to write me. I will try to answer all. Gerry Feid, Box 66233, AMF O'Hare, IL 60666-0233.

FOREM BOARD

The new BBS is now working so well we are now going to give every member of ACE a Level Seven access to the board so they will be able to enjoy ACE programs at least a month before the general public can get them.

All members who log on the board should leave a message indicating they are a member and then their access level can be taken care of almost at once.

If you are logging on for the first time there are a few things you should know. Most Atari users have a 40 column screen, and a clear screen code of 125. Please have in mind the password you wish to use when you log on. If you log on and don't quite understand what is going on there are instructions telling you what to do. Please read and pay attention to what they say as this board may be different from any you may have used in the past. If you follow what they say you should have no trouble using the board.

In the next newsletter I will walk you through logging on. If you have any questions about the board, or suggestions please let us hear from you.

— LARRY GOLD

BUMPAS REVIEWS

WAR IN RUSSIA (SSI, $80) is a week-by-week strategic simulation of the entire German attack on Russia during World War 2. Written in machine language, the computer operates the Russian side when two players cannot be found. The map scrolls smoothly from Murmansk in the north to Sevastopol in the south; from Warsaw in the west to Baku and the Urals in the east. Terrain on the map shows cities, forest, swamp, rivers, rail lines, mountains, and sea. When the cursor is over a city, you may read its name. The cursor may also be used to obtain information about the various combat units. If a player puts the cursor over an enemy unit, the information may not be correct. This creates a "fog of war" situation where intelligence is not precise.

This game is one of the few which give the players a flexibility found in board wargames. Up to 398 units may be created and placed on the board at one time. Players may compose these units as desired by placing vehicles and personnel in each division up to the maximum strengths permitted. Up to 6 units (German Divisions, or Russian Corps) may be assigned to a Group (German Corps, or Russian Armies). Groups may be Infantry, Armor, Mechanized, or Cavalry type. Each side has pools of vehicles and personnel which may be augmented each turn with replacements. In any turn in which these pools are drawn down to zero, no further units should be created. We found the Russian infantry pool resets itself after being drawn down to zero, effectively removing any limit to Russian infantry reinforcements. The Russians had a lot of infantry reinforcements, but even the Russians operated under some constraints. This is a bug which should be addressed, but it's not fatal to the game, as the Russian player can just forgo using this unfair advantage. Artillery from another pool may be added to Groups during movement.

Air Groups may also be created, but these are more abstractly represented than other combat groups. They only show air combat points up to a maximum of 255. Air points may be transferred between any two of the six air groups in order to concentrate their strength for combat. Other combat units may only be transferred between two Groups occupying the same space (up to two groups may occupy any one space).

In addition to producing new combat units, players engage in other economic activities by building factories such as Heavy Industry, Artillery, Vehicle, Aircraft. These factories must be located, and many of them are in cities on the map. The bulk of German factories are off-map in Germany. And many Russian factories are off-map in the Urals. I think the Russian player is wise to create any new factories off-map. The Russian player is also permitted to dismantle factories and move them.

Combat strength is a function of raw strength, experience and fatigue. A strong unit pushed too fast and too far may fall victim to smaller units. Supply is very important for reducing fatigue, and supply lines are difficult to maintain — especially on the offense. Players may use rail lines for movement and supply. And one new unit of railway may be built each turn. As more rails are destroyed than are built, the rail lines get pretty chewed up.

The graphics are a welcome improvement over previous SSI games. The addition of sound might be nice. Another item which needs addressing is the ability of an Air Group with no combat strength (or even if it's full of aircraft) to prevent the movement of any enemy combat unit through it. Air Groups have no such ability in reality — they should be walked over and destroyed by any tank or infantry force. Weather and terrain affect combat and movement, but weather effects do not appear on the map. Perhaps the background color could be changed to show different weather conditions.

As it stands, though, this game is a better game and more fun to play than any board wargame on the subject I've seen. It's great to see the board set up in the time to read the disk — only a few seconds. I've played games on the Russian campaign which have required hours just to position all the little cardboard units before play can begin.

]SPELUNKERt(Broderbund, $30) is a maze arcade game with some very nice graphics and sound. The music is very good. You are a "spelunker"(one who explores caves) searching for various items and combatting various hazards in a cave with six levels. You might find flares and dynamite. Flares keep away monsters who like the dark. Dynamite can blast away rock obstructions to your progress. But be sure to run to safety before the dynamite explodes! You also have a force field weapon which can prevent the ghosts of dead spelunkers who proceeded you into the caves from hurting you. This force field weapon uses a lot of energy, and you use energy just walking around. So you =must also find batteries laying about to recharge your energy. The screen displays a bar graph showing energy remaining. The number of flares and dynamite bundles you have is also shown.

The player moves so smoothly on the screen it is disconcerting the first few times you try to move off-screen to right or left. The new screen leaps on the screen so rapidly the eyes have trouble adjusting. Progress up or down is by elevator, rope or ladder. The screen scrolls much more smoothly on the vertical axis.

Figuring out the maze, with its intricacies of caverns, obstructions, ladders, and ropes will engage the player's interest for hours. Have fun.

The Computer: Extension of the Human Mind III ($10, Center for Advanced Technology in Education, 1787 Agate St., Eugene, OR 97403) is a compilation of the procedings of the recent conference on the same subject. Topics include microcomputer networking, computer-assited video instruction, cognitive psychology and its lessons for teaching with computers, use of word processors and record keeping programs by teachers, computer education course goals, incorporating computing history in instruction, the educational impact of computers on schools, the policy perspective on information technology, the question of educational equity, and the ethical issue of software piracy.

ATARI directions: Rumors still abound over the direction Atari will take under Tramiel. So far, all he seems to have done is to file a bunch of lawsuits. Some industry sources speculate that Tramiel's greatest interest in Atari was its license to use the chip set designed by Amiga. Tramiel's wild claims to build 16-bit and 32-bit machines, or about intentions to compete with IBM, Apple or Commodore (at different times to different audiences) seem to be indications of desperation, or attempts to create investor interest for new financing.

No one at Atari agreed to speak with me on the record. But a source from inside Atari did tell me of increasing stocks of 800 XL and 1050 disk drives. I was also told that when Tramiel took over Atari, there were 500,000 800 XLs in stock (some unassembled); 1 million 1050 disk drives; and 500,000 1010 program recorders. I have no figures on current inventories. But if stocks of consoles and drives are increasing, it portends a scrappy Christmas marketing season. Tell your friends to look for good prices. I checked with several Pacific Stereo stores. I found one in San Mateo, California which was selling 800 XLs over Labor Day for $148!

— Jim Bumpas, Co-Editor

DIF FILES

(reprint: Atari Anonymous of Rhode Island, September, 1984)

SYNFILE is the latest in filemanagement programs, and in my opinion, the best. It makes use of all of ATARI's attributes, including expanded memory. SYNFILE has the ability to search on 16 fields and the size of your file is only limited by memory for the index. It can search across multiple disks.

I decided I wanted my data files in SYNFILE. This means I first must convert my files to DIF (Data Interchange File), so I wrote a program to do so. This program will automatically convert Filemanager files to DIF files and will also convert other DOS files if you know the structure (number of fields, lengths, whether they are strings or numeric, and the number of records in the file).

If you're converting a Filemanager file, simply insert the data disk and the program will give you a list of the files on the disk. You then select which file you want to convert. The program will show you a list of the field names to make sure you have selected the right file. You will then be asked how many records you want to copy. This allows you to create 2 smaller DIF files from a very large data file. If you enter the same number as the total records, the conversion will only create one file. If you enter a number less than the number of records in the file, the conversion will create one file with the number of records you entered and another file with the rest of the records. Next you will be asked for the name of the output file. After all these entries have been made, the program will proceed to write the DIF file, displaying the field and record numbers as it goes along.

Type in the program and save it to disk. You might want to use a small Filemanager file first to make sure you understand how eveything works before you try to convert a large file. This program will also be on the AARI BBS (401) 521-4234. Have fun.

— David Fuller

Speech Synthesizer

I've spent a little time over the past couple of months experimenting with the General Instruments SPO256-AL2 voice synthesizer chip. I chose it because it is inexpensive. It is available with data sheet for $20 + $1 shipping from: Silicon Science Inc., 4710 Wellington Blvd., Alexandria,LA 71303. Note the Radio Shack part number 276-1783 is not the SPO256-AL2 (even though the data sheet says so). Part 276-1783 is actually a SPO256-017 which doesn't have the allophone selections of the AL2. Alone, it will speak only the numbers 0-11. The extra ROM provided expands these selections to 36 including the 'teens', twenty-fifty (by 10's), some phrases (good morning, A.M., P.M. etc.) and three melodies. It reproduces these quite well and will make a good talking clock or speaking voltmeter (with quite a bit of extra circuitry).

Construction: a circuit diagram is included with the data sheet of the AL2 and all parts are available from Radio Shack. A 3.58 Mhz quartz crystal can be used in place of the normal 3.12 Mhz crystal which may be hard to find. I found the LM386 amplifier to be a little weak on volume. I interfaced the address and control lines directly to joystick ports of the Atari using the same pin assignment as in 'Build a Low Cost Printer Interface', A.N.A.L.O.G. #16, Feb. '84, p 36. These are: Jack 1 - pin 1:A1 through pin 4:A4; Jack 2 - Pin 1:A5 through pin 3:A7; Pin 4:ALD pin 6:LRQ pin 8:gnd.

This is not a beginner's project, although none of the layout is critical. Silicon Science also sells an assembled version which plugs into the Commodore 64 user port ($55). I haven't seen it, but you should be able to easily interface it to the Atari joystick ports.

First Impressions: At first it is difficult to get anything intelligible out of the unit. There are 64 different allophones and you must choose the proper combination to produce the words you want. There are sequences given in the data sheet for a number of words. It was easy to write a Basic program to call these up in order. I had my son type in the various data combinations and listened to the result without seeing the words produced. I found it difficult to recognize individual words at all! Generating a word on your own is not easy either, it takes quite a bit of trial and error. It does seem the more you play around, the better you can get a word to sound although it is hard to stay objective after a while. You should also remember words will be easier to recognize when heard in complete sentences.

Text to Speech Algorithm: It is nice to be able to type sentences into the keyboard and have the synthesizer speak them. There have been a couple of algorithms devised to do this. One developed by the Naval Research Labs was simplified and used by Steve Ciarcia in 'Build the Microvox Text-To-Speech Synthesizer' BYTE Sept. '82. Using this as a model, I wrote the Basic program listed in this issue. I must point out ... this is not a polished version. Translation was difficult because a different synthesizer chip was used in the Microvox and the allophone sets are not the same. It will take qute a bit of fiddling to polish it up, but the program does work. There seems to be no speed problem using Basic (most allophones are 50-250 milliseconds long). I'm presenting the program now mainly so others can inspect the method and see what is involved. If anyone goes to the trouble of building a synthesizer and improving the program, I will appreciate hearing about it.

(The September, 1984 issue of BYTE magazine, page 337, contains a review of 5 voice synthesizer chips, including the one Stan Ockers uses. — Ed.)— Stan Ockers

R.R. #4, Box 209
Lockport , IL 60441

VP's RAMBLINGS

I received from a gentleman in Illinois a copy of Kermit and the instructions on how to use it. As soon as I type in the listing and compile it as it is in Action I'll let you know how it works and whether it is worthwhile to use.

As MiKe Dunn told you in the last newsletter we bought some disk drives from Centurian Enterprises, P.O. Box 3233, San Luis Obispo, CA 93403. Well they have informed us they will give a discount to any person who buys from them and mentions they are a member of ACE. If you need parts, drive, motherboard etc. they are a good place to do business.

Since the Fall is here I can put my mind more to computing than the other pursuits better weather brings. I will now have more to say on what we can do with our computers. I realize this may sound funny but there are alot of you out there who really don't know what to do with a computer besides play games and maybe use a few simple household programs. I am going to tell you in the months to come about programs you can use for yourself, family and maybe in your business if you have one.

Keep watching this column, you just might find out something you can use your computer for which you haven't thought of before. Also if you have some ideas please pass them along and I will share them with our readers. Thank you.

— Larry Gold

SPELL BOUND

Dyslexia is a very frustrating learning handicap which can produce a variety of symptoms. These symptoms can range from reversing letter or word order to complete disorientation in one's surroundings.

Simple math, spelling,writing or reading become major tasks to even the borderline dyslexics, whose mind must go through monumental mental gymnastics to straighten out the jumbled symbols they see.

My son is a mild dyslexic who reverses letter and number order while reading or writing. His trouble with spelling got me interested in writing a spelling program almost two years ago.

This "simple" spelling program has since blossomed into a full spelling package including 3000 words with the ability to add more, a student file system for up to 40 students per disk, a teacher or parent file management program, and the simple program which started it all, a tutorial helping the students with words they are having trouble with.

When a word is missed the student is shown the correct spelling. His spelling and the differences are pointed out. Some educators have voiced caution about showing the wrong spelling again because it may reinforce the wrong spelling rather than the correct one. But I have found that unless you can prove that the student's origional spelling was incorrect, he will swear it was spelled correctly. This only adds to the frustration.

The program also offers another tutorial taking the student through each word, letter by letter, helping him spell it correctly. This tutorial is automaticly entered when a word is missed more than once during a drill.

One advantage this program has over some existing programs is it uses upper and lower case letters at all times including the games which are in Graphics 2.

When the program boots up it asks for the sudent's name. (Entering "TEACHER" at this point will run the Teacher/Parent file maintenance program.) Then it either enters the student's file if he has one, or it asks more questions to make a file. The words for the file are then selected based on the students grade level.

The word lists in this program were chosen because they are the words making up 98• of the written and spoken words used in everyday communication.

As the student works through the games and tests, the program keeps track of the progress. The program notes how many times a word is tried and drops them after they have been spelled correctly twice. Using the teacher's program, a file can be checked to see if any words or group of words are causing a special problem. The student can then be given extra help by a parent or teacher.

This is not a flashy program with lots of animation and graphics, but the "game" section challenges the student to spell the words using three different games. The games I chose are: Flash, What's That Vowel, and Scramble. In testing, flash type games have been proven to be the most beneficial.

To use the program properly a numbered word list and more complete documentation is recommended. There are many of the finer points of Spelling Bee I don't have room to explain here, including the use of the 10 functions of the parent/teacher's program, which has printer options, and the philosophy of parent and student interaction during the use of the program.

The disk is going to be offered through the ACE Library at the usual price for a double sided disk. But the documentation will have to be ordered through me, Bob Browning. (PLease see the back of the news letter for the address.) It's price will be $10. Try the program and if you like it and want to know more send for the documentation. I hope this program can help your children as much as it has mine.

— Robert Browning

October meeting
South Eugene High
Wed. 10th Oct.
7:30PM

LIBRARY LIST

ATARI COMPUTER ENTHUSIASTS EXCHANGE
LIBRARY(rev. 9/15/84)
The ACE Exchange Library is a service designed to allow the sharing of user-written programs. There are two ways to acquire programs from the ACE exchange library: By ordering the disk(s) you desire and enclosing the appropriate amount of money, or by sending us programs you have written and wish to share with others, in exchange for your choice of any disk in the library. We strongly support this second way of obtaining programs, and will go out of our way to help you share your programs with other users. Please see the end page for complete details.

Money collected from the library goes to support the club, and we need the money now to continue the Newsletter at the present quality!! Disks avaliable for double or single density drives. Please specify double density with order.
We have had SOME success with saving programs to tape. If you wish to take a chance, indicate your choice is TAPE.(Tape option not available for disks marked with *).

EDUCATIONAL DISKS BY E.R.A.C.E.
(EDUCATIONAL RESEARCHERS OF ACE)EDUCATION DISK #1,
TOUCH--A typing tutorial drill.
PRESCHL--Select matching colors, numbers, and shapes.
SCRAMB.14--Unscramble the letters and spell the word correctly.
WORDMATE.36--Match up the root words and make compound words.
DRAGNET.48--From the clues and definitions given, identify a word.
FUNCTION--Run your number through the machine then determine the relationship of the answer given.
MADLIB--You supply the nouns, verbs, etc. and short stories will be generated.
HANGMAN--Popular word-guessing game using computer terminology.
MINUTE.MTH--How many 1, 2, or 3-digit numbers can you add or subtract in 2 minutes?
MATH2--Advanced math calculations and conversions.
ELLIPSE--Draws ellipses with your coordinates.
EDUCATION DISK #2, $8
SIMON--How many times can you repeat the sounds and colors?
BEGINTYP--A tutorial for beginning typists of all ages.
MATHPKG--More advanced math routines.
STATES--A text based states and capitols drill.
AMERICAS--A test based countries and capitols drill of the Western Hemisphere.
METRICS--Does conversions of Metric and U.S. Standard measurements.
SPELLBEE--Spelling flash cards using your own words.
MATH.PRO--Timed math drill of all operations. Has printout for teachers.
NUMBERS.15--A logic game. Arrange 15 numbers in order.
NUMBER.LI--Determine the unknown number in the progression.
MULTIPLICATION BINGO--Multiplication tables drill (1-9) with correct answers filling in a BINGO card. (E/S 16K)
SCRAMBLED WORD--Unscramble letters to spell the word. (E/S 8K)
SINE WAVES--Graphs curve for values input by the user. (S 32K)
HANGMAN--Traditional word guessing game. (E/S 8K)
BOURREAU--Traditional HANGMAN with instructions and words in French. (E/S 8K)
FANCY ROSE--A plotting routine that utilizes independent variables for the function R=SIN(N*THETA). (E/S 8K)
NAME THE STATES--Student types names of states from memory. (E/S 8K)
MATH QUIZ--Random math problems in levels of difficulty. (E/S 8K)
STATES AND CAPITOLS--Fill in the blanks to identify states and their capitols. (E/S 8K)

Abbreviations used: E=elementary, S=secondary.

SOFTSWAP DISK #2, $8
VOLCANO--A simulation game that simulates survival tactics to escape from an erupting volcano. (E/S 32K)
OREGON TRAIL--Simulates a pioneer wagon train trip from Independence, MO. to Oregon City, OR. (E/S 32K)
POEM-- Creats a freeform poem without user input. (E/S 8K)
MAGIC SQUARE--Moving one number at a time, put 15 numbers in order, given one free space on a 4x4 grid. (E/S 48K)

SOFTSWAP DISK #3, $8
PAK JANA--The user controls the movements of a dancing figure with a simple animation programming language. (E/S 32K)
CINQUAIN--User creates a cinquain poem. (A poem of five lines having respectively two, four, six, eight, and two syllables.) (E/S 8K)
ATTRIBUTE BOXES--User tries to guess secret attribute of two boxes, given clues at each guess. This is an excellent logic game. (E/S 48K)
FRACTION--Practice converting fractions to decimals. (E/S 24K)

SOFTSWAP DISK #4, $8
HURKLE--Student learns compass directions by looking for 'Hurkle' on a graph. (E 32K)
KALAH--Computer version of the ancient board game. (S 8K)
GUESS MY MEAN--Math strategy game. (E 8K)
SNARK--User must locate snark on a 10x10 grid.
EDUCATION DISK #3, $8
STATES--A map oriented states and capitols game.
REMGAMES--Division remainder game. Guessing the dividend makes division fun.
SLIDE--A mathmatical game of chase and tag.
MULT--An excellent tutorial and drill on multiplication of single numbers.
FLAGS--A graphic quiz on some of the flags of the world.
MEMORY.PRO--Repeat the letters and numbers in a Simon-type game.

Brief documentation provided for these disks by Bob Browning of ERACE.

EDUCATION DISK #4, $8
MATHWARS--A very fun and interesting approach to math drill. A problem appears on the screen and slowly descends to the bottom. If the answer is given in time, a missile is launched and the problem explodes. If not, it will blow up when it reaches the bottom. The answer will then be shown. This program is set up for addition only, but it could easily be changed for any of the other operations.
GEOQUIZ--A geography quiz.
ODDEVEN, PLURALS, VERBS, NOUNS--These four games are based on the same game structure, but each deals with a different subject matter. In each of the games you must select the one item that is different from the others shown. The graphics and program content are good.
QUIZ.PRO--This is a quiz making and taking program for cassette based systems. It is a very good program for those who do not have the advantages of a disk based filing system to aid in writing and taking quizes.
COPYQUIZ--A program to make copies of the data tapes used in QUIZ.PRO.
QUIZHELP--Instructions for QUIZ.PRO.
HANGQUOT--A Hangman type game, but you guess words and whole quotations. This is a game the whole family can play. The quotations are fun, educational, and challenging.
MOOMIND--This is a MasterMind type game. As usual you try to guess a hidden number, but now the computer gives the clues in cows and bulls. A good logic game.
LWRCASE.GR2--A tutorial on using upper and lowercase letters in Graphics one and two. Plus routines to read input from the keyboard, and backspace in GR. one and two.

EDUCATION DISK #5, $8
OLDMAC.MAY - A counting and matching game for pre-schoolers and early primary grades.
ATRAIN - An animated spelling game for lower primary grades. (K-2nd grade).
ALGEBRA1 - An elementary algebra drill that tests your knowledge of the distributive axiom of multiplication with respect to addition.
ALGEBRA2 - Another algebra drill. Determine the bi-nomial roots of simple polynomials.
SCRAMBLE.JK - Unscramble the letters to spell the word correctly. (Grade 6-adult).
WORDTROUBLE - A homonym word game that requires you to put the correct word in a sentence.
EXPANSION - Determine the value of each "house" of a number, then add them up to arrive at the original number.
COUNTING - A fun addition or counting game for 1st or 2nd graders. Answer the problem correctly and be visited by a friendly alien.
ESTIMATION - Visually assess the size, number, and co-ordinate relationships between lines, shapes, and dots. (Grade 4 - adult).

EDUCATIONAL DISKS
from SAN MATEO COUNTY OFFICE OF EDUCATION &
COMPUTER-USING EDUCATORS
distributed by ACE EXCHANGE LIBRARY

SPEECH by STAN OCKERS

```
10 REM ********************************
11 REM *       TEXT TO VOICE          *
12 REM *   USING SP0256-AL2 CHIP      *
13 REM *      S. OCKERS  9/84         *
14 REM * ACE Newsletter, 3662 Vine    *
15 REM * Maple Dr. Eugene, OR 97405   *
16 REM *      Oct. '84  $12 year      *
17 REM ********************************
18 REM
20 GOSUB 910
29 REM ********************************
30 REM *  GET INPUT AND CHANGE ALL    *
32 REM *    NON-ALPHABETIC TO '!'     *
34 REM *    ADD A '!' AT EACH END     *
38 REM ********************************
40 INPUT I$:ILEN=LEN(I$)
50 FOR J=1 TO ILEN:A=ASC(I$(J)):IF (A(
65) OR (A)90) THEN I$(J,J)="!"
52 NEXT J:I$(J,J)="!"
54 T$(2)=I$:T$(1,1)="!":I$=T$:I$(LEN(I
$)+1)="!"
55 REM ********************************
56 REM *  INSPECT I$ ONE CHARACTER     *
58 REM *       AT A TIME              *
59 REM ********************************
60 FOR J=2 TO ILEN+1:C=ASC(I$(J))
62 IF C=33 THEN A=0:GOSUB 500:GOTO 69
64 C=C-64:A=ASC(A$(C))
66 IF (A)63) AND (J<ILEN+2) THEN TWO$=
I$(J,J+1):THREE$=I$(J,J+2)
67 IF A)63 THEN GOSUB A:GOTO 69
68 GOSUB 500
69 NEXT J
70 A=0:GOSUB 500:GOTO 40
99 REM *********** A ***************
100 IF TWO$="A!" THEN A=20:GOSUB 320:R
ETURN
102 IF TWO$="AR" THEN A=26:GOSUB 320:J
=J+1:RETURN
104 IF THREE$="AL!" THEN GOSUB PREVOW:
IF R)0 THEN A=30:GOSUB 500:A=30:GOSUB
500:A=62:GOSUB 500:J=J+1:RETURN
106 IF TWO$="AL" THEN P=J+2:GOSUB VOW:
IF R=3 THEN A=32:GOSUB 500:A=62:GOSUB
500:J=J+1:RETURN
108 A=26:GOSUB 320:RETURN
119 REM *********** C ***************
120 IF TWO$="CH" THEN A=13:GOSUB 500:A
=50:GOSUB 500:J=J+1:RETURN
122 P=J+1:GOSUB VOW:IF R=1 THEN A=55:G
OSUB 500:RETURN
124 A=8:GOSUB 500:RETURN
139 REM *********** E ***************
140 IF TWO$="E!" THEN GOSUB PREVOW:IF
R)0 THEN RETURN
141 IF TWO$="E!" THEN GOSUB PREVOW:IF
R=0 THEN A=19:GOSUB 500:RETURN
142 IF (TWO$="EE") OR (TWO$="EA") THEN
 A=19:GOSUB 500:J=J+1:RETURN
143 IF THREE$="ED!" THEN GOSUB PREVOW:
IF R)0 THEN J=J+1:RETURN
144 IF TWO$="ER" THEN A=52:GOSUR 500:J
=J+1:RETURN
145 IF THREE$="ES!" THEN GOSUB PREVOW:
IF R)0 THEN J=J+1:RETURN
146 IF (TWO$="EE") OR (TWO$="EA") THEN
 A=19:GOSUB 500:J=J+1:RETURN
147 A=7:GOSUB 500:A=7:GOSUB 500:RETURN

149 REM *********** H ***************
150 P=J+1:GOSUB VOW:IF (R<3) AND (R)0)
 THEN A=27:GOSUB 500:RETURN
152 RETURN
159 REM *********** I ***************
160 IF (TWO$="I!") AND (I$(J-1,J-1)="!
") THEN A=23:GOSUB 500:A=6:GOSUB 500:R
ETURN
162 IF (TWO$="IN") AND (I$(J-1,J-1)="!
") THEN 169
164 P=J+1:GOSUB VOW:IF R=3 THEN P=J+2:
GOSUB VOW:IF R=1 THEN A=23:GOSUB 500:A
=6:GOSUB 500:RETURN
168 A=12:GOSUB 500:A=12:GOSUB 500:RETU
RN
169 A=12:GOSUB 500:A=7:GOSUB 500:A=11:
GOSUB 500:J=J+1:RETURN
179 REM *********** L ***************
180 IF TWO$="LL" THEN A=45:GOSUB 500:J
=J+1:RETURN
182 A=45:GOSUB 500:RETURN
199 REM *********** N ***************
200 IF TWO$="NG" THEN A=44:GOSUB 500:J
=J+1:RETURN
202 A=56:GOSUB 500:RETURN
209 REM *********** O ***************
210 IF THREE$="OF!" THEN A=15:GOSUB 50
0:A=35:GOSUB 500:J=J+1:RETURN
212 IF TWO$="OR" THEN A=53:GOSUB 500:A
=14:GOSUB 500:J=J+1:RETURN
214 IF (TWO$="ON") AND (I$(J-1,J-1)="I
") THEN A=38:GOSUB 500:A=11:GOSUB 500:
J=J+1:RETURN
215 A=53:GOSUB 500:RETURN
216 REM *********** Q ***************
217 IF TWO$="QU" THEN A=41:GOSUB 500:A
=46:GOSUB 500:J=J+1:RETURN
218 A=42:GOSUB 500:RETURN
219 REM *********** S ***************
220 IF TWO$="SH" THEN A=37:GOSUB 500:J
=J+1:RETURN
221 IF (J+3))ILEN THEN 224
222 IF I$(J,J+3)="SED!" THEN P=J-1:GOS
UB VOW:IF (R)0) AND (R<3) THEN A=43:GO
SUB 500:A=21:GOSUB 500:J=J+2:RETURN
224 IF TWO$="SS" THEN A=55:GOSUB 500:J
=J+1:RETURN
226 P=J-1:GOSUB VOW:IF R=3 THEN A=43:G
OSUB 500:RETURN
228 A=55:GOSUB 500:RETURN
229 REM ********* T ***************
230 IF (J+3))ILEN THEN 232
231 IF I$(J-1,J+3)="!THE!" THEN A=29:G
OSUB 500:A=19:GOSUB 500:J=J+2:RETURN
232 IF THREE$="TO!" THEN A=13:GOSUB 50
0:A=31:GOSUB 500:J=J+1:RETURN
233 IF (J+4))ILEN THEN 235
234 IF I$(J,J+4)="THAT!" THEN A=29:GOS
UB 500:A=26:GOSUB 500:A=13:GOSUB 500:J
=J+3:RETURN
235 IF TWO$="TH" THEN A=29:GOSUB 500:J
=J+1:RETURN
236 IF THREE$="TIO" THEN A=37:GOSUB 50
0:J=J+2:RETURN
238 A=17:GOSUB 500:RETURN
239 REM *********** U ***************
240 P=J+1:GOSUB VOW:IF R=3 THEN P=J+2:
GOSUB VOW:IF R=3 THEN IF I$(J+2,J+2)="
!" THEN A=15:GOSUB 500:RETURN
242 A=49:GOSUB 500:A=22:GOSUB 500:RETU
RN
245 REM *********** W ***************
246 IF (J+3))ILEN THEN 248
247 IF I$(J-1,J+3)="!WAS!" THEN A=46:G
OSUB 500:A=15:GOSUB 500:A=15:GOSUB 500
:A=43:GOSUB 500:J=J+2:RETURN
248 A=46:GOSUB 500:RETURN
249 REM *********** Y *************
250 IF TWO$="Y!" THEN P=J-1:GOSUB VOW:
IF R=3 THEN P=J-2:GOSUB PREVOW+10:IF R
)0 THEN A=6:GOSUB 500:RETURN
252 A=25:GOSUB 500:RETURN
300 REM ****** SUBROUTINE SOU *******
305 REM *  SENDS CODE 'A' TO VOICE   *
310 REM * CHIP AND WAITS UNTIL DONE *
315 REM ********************************
320 POKE 54016,128+A
330 POKE 54016,A
340 POKE 54016,128+A
350 IF PEEK(645))0 THEN 350
360 RETURN
380 REM ****** SUBROUTINE VOW *******
385 REM *   CHECKS LOCATION IN I$    *
390 REM *  GIVEN BY 'P'; RETURNS:    *
392 REM *   0 IF '!'                 *
394 REM *   1 IF 'E', 'I' OR 'Y'     *
395 REM *   2 IF 'A', 'O' OR 'U'     *
396 REM *   3 IF A CONSONANT         *
398 REM ********************************
400 C$=I$(P,P):IF C$="!" THEN R=0:RETU
RN
405 IF (C$="E") OR (C$="I") OR (C$="Y"
```

Library List cont.

SOFTSWAP DISK #1, $8
MEET THE ROMANS--Practice converting Roman numerals to Arabic and reverse. (E/S 8K)
BAGELS--Classic number guessing game. (E/S 8K)
TRAP--Number guessing game that requires the development of strategy to guess a number in the least possible tries. (E/S 16K)
GEOGRAPHY--Word game using geographic names of nations, states, world cities, oceans and rivers. (E/S 8K)

PILOT DISK #2, $10 *
GEOMETRY - An excellent tutorial for teaching geometric concepts. Suitable for middle grades thru high school. Draw a figure and program will display the "vital statistics" of the figure.
SKETCH - A PILOT joystick sketch pad. Pictures can be saved and recalled.
PIANO - Displays the staff and notes available in PILOT.
SNBIGLET - A letter matching game for preschoolers using upper case letters.
SNLETTER - Same as above using lower case letters.
PRETURT - A preschoolers sketch pad using the arrow keys instead of a joy stick.
SPELL - For beginning spellers. You put the words on the screen and the child can study them as long as he wants. The words disappear and the child attempts to type them in correctly.
DESIGNM - Make designs by chosing from four figures and placing them on the screen with the joystick.
DUNGEON - A tutorial in the simple use of PILOT to create adventure type games.

PILOT DISK #3, $10 *
RANDSPELL -For beginning spellers. You put the words on the screen and the child can study them as long as he wants. The words disappear and the child attempts to type them in correctly.
FAMILY SQUARE - A Tic-Tac-Toe type of game but you must answer questions before you are allowed to select your square. Game is not complete. You must supply the questions.
RHYTIME - Type in a word and then try typing in additional words until you find one that rhymes.
CHRUTIL - A PILOT character maker.
CHRRET - Utility character saver.
CHREX - An alternate character set.
LETTERMATCH - Match the lower case letter on the screen with the upper case from the keyboard.

RECENT BEST OF ACE DISKS $15.00 SINGLE/$20.00 DOUBLE SIDED
Note: Double Sided disks can be read on all ATARI disk drives.
Best of ACE(NSW), Best of ACE Vol. #2 & Source Codes not avaliable on cassette.

BEST OF ACE Vol. Best of ACE, Vol. #7
ATRAIN - An animated spelling game for lower primary grades. (K-2nd grade).
BUGS - A ladybug (you) has to collect aphids in nests. Not an easy task!
CANNIBAL - Get the missionaries and cannibals across the river in 1 canoe without getting eaten by the cannibals.
DEPTHCHARGE - Destroy the enemy subs with your depth charges.
HEXDEC & DECHEX - Hexadecimal to decimal converter and vice versa.
MICROPAINTER PICTURE LOADER - 2 programs to be used with your Micropainter program.
MISSILE DEFENSE - A slow action missile command sort of game.
STARBLASER - Blast away the enemy ships with your lasers.
MX80 - A utility to print the Atari graphics characters on your Epson MX80 with graphics chip.
QDOS - A quick dos. Boots up automatically and goes with...
QMENU - A quick menu that autoboots.

Best of ACE, Vol. #8($15 disk only)
TINYTEXT.MK2- This is the fourth version of our own word processor. This version allows input of frequently used words or phrases with only a few keystrokes.
FUNTION KEY- Creates funtion keys booted in an AUTORUN.SYS.
ABIS- Allows the user to easily format text on the screen then writes a BASIC program to display the text.
KONG-A game in BASIC . Climb ladders, jump barrels and bricks to rescue your fiancee.
ANGEL WORMS II- Another of Stan Ockers finest. 1 or 2 players maniputate worms around the screen avoiding each other and various blockades. Written in ACTION, cartridge not required.
LIFE- A 1 to 4 player game. Create a colony and watch it grow. Written in ACTION, cartridge not required.
DIAMONDS- Game for 1 or 2 players. Your space craft has landed on an asteroid. You must mine the diamonds to fuel your craft and escape. By Sydney Brown.
MENUPLUS- The best disk menu we have seen. Allows creation of an AUTORUN.SYS, lock files, binary load and other features directly from the menu. From the Jacksonville, Florida ACE.

Best of ACE, Vol. 9

$15

NEWDOS - prints error messages on screen along with error number.
GLOBAL - Used with Filemanager 800 files.
FUNART - Used with the "Fun With Art" cartridge.
TOMB - Use your joystick to find the keys that open the treasure chamber in the Pharoah's tomb.
KRAZY CLIMBER - Use your joystick to climb the outside of a building while dodging objects being dropped on you.
MX80DUMP - A revised graphics screen dump for the Epson MX80 printer.
PAINTBOX - An "Etch-a-sketch" type of program written in ACTION by Stan Ockers. No cartridge needed.
ALPHABEE - For the youngster learning the alphabet. Fly from flower to hive collecting the letters of the alphabet in the correct order. Written in ACTION by Stan Ockers. No cartridge needed.
STRINGMAKER - A machine language string maker written in BASIC.
FLASH - Numbers flash on the screen. A good way to speed up your reading and comprehension.
BULLANT - A 2 player game from Australia. Move your eggs from the bottom nest to the top.
SUPERLOADER - A method for loading assembler programs from within a BASIC programs

ACTION DISK #2
For the advanced programmer. ACTION CARTRIDGE REQUIRED.

SYMBOL TABLE - Two versions on this disk. Lists local variables by PROC/FUNC and globals at the end of compilation.
SCREEN DEMO - Just what it says.
CATCH - An error trapping routine that can be used in your ACTION programs.
TIME - A calender.
COLOR - Puts color bars on the screen.
TERMINAL - A modem program in ACTION. Documentation is on the disk.
PAINTBOX - An "Etch-a-sketch" type of program written in ACTION by Stan Ockers.

ACTION DISK #3

MAZE - Creates a maze that can be shown on the screen or dumped to a printer. Size is variable from 1 by 1 (not really practical) to 25 by 30. Also has an invisible option showing only the outline of the size.
ALPHABEE - For the youngster learning the alphabet. Fly from flower to hive collecting the letters of the alphabet in the correct order. Written in ACTION by Stan Ockers.
ESCAPE - Originally written in BASIC by David Bohlke. Translated to ACTION by Bob Turner. A 3-D maze escape. Use the joystick to find your way out and the trigger to see a top view of the maze.
BOUNCE - A 2 player game from Stan Ockers. Try bouncing your man into the sky and landing on a cloud. Miss the trampoline and you end up in quicksand. If the bird flying around the screen catches you, you're a gonner.
PAGELIST - An ACTION utility to list an ACTION source code file to single sheets on an Epson printer.
TINTOWIZ - Converts TINYTEXT files to TEXTWIZARD format.

FILEINDEX
A commercial quality disk inventory program 3 years in developement. This makes keeping track of what is on which disk much easier. Complete documentation is on the disk.

Remember we have many more disks, including Utility disks, assembly language source codes, etc. Please send 50c stamps or coin ($1 overseas) for complete list. We will try to put the complete list in the Newsletter over a period of time.

TO PLACE YOUR ORDER
The prices are shown next to each title. You may opt to use BOTH SIDES of a disk and reduce your price by $2 ($1/side) for each disk so specified (we have had no problems with this in 3 yrs. use). For example SCOPY and ED #4 on opposite sides would be $15 + $8 =$23 -$2. Your cost $21. The only exceptions are the disks on the "BEST OF ACE" page. To order 1 from the BEST OF ACE and 1 other, use the same formula. Two BEST OF on opposite sides is $20. For a limited time, the "Freeware" program by Richard Kalagher The Home Financial Data Base can be put on the back side of any single-sided disk. Also, your official ACE transfer will be included.

To order any of the programs, send your check, payable to ATARI COMPUTER ENTHUSIASTS, in the appropriate amount and your request to:

Atari Computer Enthusiast's Program Exchange
374 Blackfoot
Eugene Oregon 97404

In order to keep our costs down, we are not equipped to handle any credit card billings such as VISA or MASTER CHARGE.

Prices include postage in the USA and CANADA. FOR ORDERS TO ADDRESSES OUTSIDE THE USA AND CANADA, please add US$2.00 per order (regardless of how many disks ordered) for airmail service.

```
) THEN R=1:RETURN
410 IF (C$="A") OR (C$="O") OR (C$="U"
) THEN R=2:RETURN
415 R=3:RETURN
440 REM ***** SUBROUTINE PREVOW *****
442 REM *   STARTING WITH PRESENT   *
444 REM *  POSITION, GOES BACKWARD  *
446 REM * UNTIL NON-CONSONANT FOUND *
448 REM *    RETURNS R AS IN VOW    *
449 REM ******************************
460 P=J
470 P=P-1:GOSUB VOW:IF R=3 THEN 470
480 RETURN
900 REM ******* INITIALIZATION ******
910 DIM A$(28),I$(80),TWO$(2),THREE$(3
),T$(81),C$(1)
920 REM **** SET PORTA AS OUTPUTS ***
930 POKE 54018,56:POKE 54016,255:POKE
54018,60
940 REM ** SET UP SUBROUTINE LABELS *
942 SOU=320:VOW=400:PREVOW=460
952 REM * A$ HOLDS CODES FOR SINGLE *
954 REM * POSSIBILITIES AND ROUTINE *
956 REM *   JUMPS FOR ALTERNATIVES  *
960 RESTORE 990:FOR J=1 TO 26:READ A:A
$(J,J)=CHR$(A)
970 NEXT J:RETURN
990 DATA 100,28,120,21,140,40,36,150,1
60,10,42,180,16,200,210,9,217
992 DATA 47,220,230,240,35,246,15,250,
43
```

ASTROMATH BY SYDNEY BROWN

```
0 REM ******************************
1 REM **Atari Computer Enthusiasts**
2 REM **     3662 Vine Maple Dr     **
3 REM **      Eugene, OR 97405      **
4 REM **          $12 year          **
5 REM ******************************
6 REM ******* October 1984 *********
7 REM ******************************
8 REM
9 REM **ASTROMATH by Sydney Brown **
10 REM
11 REM ******************************
90 GOSUB 32000:GOSUB 4000:NUM=0:LEV=9:
GOSUB 1000
200 ST1=STICK(1):ST0=STICK(0)
201 IF PL=1 THEN RR=INT(RND(0)*2):ST1=
7*(RR=0)+11*(RR=1)
202 IF PEEK(53279)=6 THEN 599
203 IF ST1=11 AND H2)11 THEN H2=H2-1:P
OSITION H2,15:? #6;"| ";
204 IF ST0=11 AND H1)0 THEN H1=H1-1:PO
SITION H1,15:? #6;"  ";
205 IF STRIG(0)=0 AND E1=1 THEN GOSUB
300
210 IF ST1=7 AND H2(19 THEN POSITION H
2,15:? #6;" |";:H2=H2+1
211 IF ST0=7 AND H1(8 THEN POSITION H1
,15:? #6;"  ";:H1=H1+1
215 IF STRIG(1)=0 AND E2=1 THEN GOSUB
350
220 IF E1=0 AND PL=1 THEN GOSUB 400
230 IF S1)99 OR S2)99 THEN 500
240 IF PL=1 THEN CNT=CNT+1:IF CNT)30+2
8*SEL THEN GOSUB 400
299 FOR W=1 TO 35:NEXT W:GOTO 200
300 FOR W=14 TO 4 STEP -0.5:POSITION H
1,W:? #6;"]";:SOUND 0,W,10,W:IF W(14 T
HEN POSITION H1,W:? #6;" "
310 SOUND 0,0,0,0:NEXT W:IF H1=DIF-1 T
HEN 330
315 FOR W=4 TO 15:POSITION H1,W:? #6;C
HR$(H1+49):SOUND 0,(W-2)*3,10,8:FOR WW
=1 TO 14:NEXT WW:POSITION H1,W:? #6;"
":NEXT W
320 FOR W=1 TO 14:POSITION H1,15:? #6;
"  ":SOUND 0,RND(0)*200,8,15:POSITION H
1,15:? #6;"  ":SOUND 0,0,0,0:NEXT W
325 E1=0:GOSUB 998:IF E2=0 THEN 7000
329 RETURN
330 FOR W=1 TO 14:POSITION H1,4:? #6;"
  ":SOUND 0,RND(0)*200,8,15:POSITION H1
,4:? #6;CHR$(49+H1):NEXT W:S1=S1+10
349 GOSUB 997:SOUND 0,0,0,0:GOTO 5000
350 FOR W=14 TO 4 STEP -0.5:POSITION H
2,W:? #6;"[";:SOUND 0,17-W,10,W:IF W(i
4 THEN POSITION H2,W:? #6;" "
360 SOUND 0,0,0,0:NEXT W:IF H2=DIF+10
THEN 380
365 FOR W=4 TO 15:POSITION H2,W:? #6;C
HR$(H2+38):SOUND 0,(W-2)*3,10,8:FOR WW
=1 TO 14:NEXT WW:POSITION H2,W:? #6;"
";:NEXT W
370 FOR W=1 TO 14:POSITION H2,15:? #6;
"  ":SOUND 0,RND(0)*200,8,15:POSITION H
2,15:? #6;"|":SOUND 0,0,0,0:NEXT W
375 E2=0:GOSUB 998:IF E1=0 THEN 7000
379 RETURN
380 FOR W=1 TO 14:POSITION H2,4:? #6;"
  ":SOUND 0,RND(0)*200,8,15:POSITION H2
,4:? #6;CHR$(38+H2):NEXT W:S2=S2+10
399 GOSUB 997:SOUND 0,0,0,0:GOTO 5000
400 HP=DIF+10:ST1=7:IF H2)HP THEN ST1=
11
405 IF HP=H2 AND E2=1 THEN 350
410 IF ST1=11 AND H2)11 THEN H2=H2-1:P
OSITION H2,15:? #6;"| ";
420 IF ST1=7 AND H2(19 THEN POSITION H
2,15:? #6;" |";:H2=H2+1
430 FOR W=1 TO 49:NEXT W:GOTO 405
500 WIN=3:IF S2)S1 THEN WIN=1
510 POSITION 0,17:? #6;"
     ":POSITION 1,17:IF WIN=3 THEN ? #
6;N1$;" WINS !!!":GOTO 530
520 ? #6;N2$;" WINS !!!"
530 FOR W=0 TO 255:POKE 708+WIN,W:SOUN
D 0,W,10,10:SOUND 1,255-W,10,10:NEXT W
:SOUND 0,0,0,0:SOUND 1,0,0,0
590 IF PEEK(53279)<>6 THEN POKE 708+WI
N,INT(RND(0)*16)*16+10:GOTO 590
599 POKE 106,CB+4:RUN
997 POSITION 2,2:? #6;S1;:POSITION 16,
2:? #6;S2;:RETURN
998 POSITION 0,4:? #6;"123456789[]1234
56789";:RETURN
999 DL=PEEK(560)+256*PEEK(561):RETURN
1000 GRAPHICS 17:POKE 756,CB:GOSUB 999
:POKE DL+3,71:POKE DL+6,7:POKE DL+9,7:
POKE DL+20,7:POKE DL+22,7:GOSUB 998
1001 POKE 708,254:POKE 709,206:POKE 71
0,90:POKE 711,140:POKE 712,4
1010 POSITION 4,0:? #6;"ASTRO  MATHS":
POSITION 0,1:? #6;N1$;:POSITION 20-LEN
(N2$),1:? #6;N2$;
1015 S1=0:S2=0:GOSUB 997:POSITION 0,3:
? #6;"[REVERSE]                    "
1020 H1=4:H2=14:FOR W=4 TO 15:POSITION
 9,W:? #6;"[]";:NEXT W:POSITION H1,15:
? #6;"  ";:POSITION H2,15:? #6;"|";
1030 POSITION 0,16:? #6;"[REVERSE]
[REVERSE]":GOTO 5000
4000 ? #6;"A S T R O    M A T H":? #6:
? #6:? #6:? #6
4001 ? #6;" will 1 or 2 people  be pla
ying please.":OPEN #1,4,0,"K:":N2$="CO
MPUTER"
4005 GET #1,PL:PL=PL-48:IF PL(1 OR PL)
2 THEN 4005
4010 FOR W=1 TO PL:? #6;"% PLEASE ENTE
R YOUR  NAME AND PUSH RETURN":IF PL=2
THEN ? #6;"       PLAYER ";W
4015 TRAP 599:INPUT P$
4020 IF W=1 THEN N1$=P$
4021 IF W=2 THEN N2$=P$
4099 NEXT W
4100 FOR W=1 TO LEN(N1$):IF ASC(N1$(W,
W)(96 THEN N1$(W,W)=CHR$(ASC(N1$(W,W)
)+160)
4110 NEXT W
4200 FOR W=1 TO LEN(N2$):IF ASC(N2$(W,
W)(128 THEN N2$(W,W)=CHR$(ASC(N2$(W,W
))+32)
4210 NEXT W
4300 ? #6;"%please choose which game t
o play :)":? #6:? #6:? #6;"1 ) ADD":?
```

SPELLBOUND

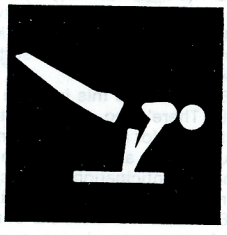
SYDNEY BROWN

```
#6:? #6;"2 ) SUBTRACT"
4310 ? #6:? #6;"3 ) MULTIPLY":? #6:? #
6;"4 ) DIVIDE"
4400 GET #1,SEL:SEL=SEL-48:IF SEL)4 OR
 SEL(1 THEN 4400
4999 RETURN
5000 IF SEL=2 AND NUM(10 THEN NUM=100
5002 DIF=INT(RND(0)*LEV)+1:POSITION 0,
17:? #6;"                        ":POSITIO
N 5-(NUM)9)-(NUM)99)-(NUM)999),17
5005 NM2=INT(RND(0)*LEV)+1
5010 IF SEL=1 THEN ANS=NUM+DIF:? #6;"
";NUM;"▣WHAT▣";ANS;:NUM=NUM+DIF
5020 IF SEL=2 THEN ANS=NUM-DIF:? #6;"
";NUM;"▣WHAT▣";ANS;:NUM=NUM-DIF
5030 IF SEL=3 THEN ANS=NM2*DIF:? #6;"
";NM2;"▣WHAT▣";ANS;
5035 IF SEL(4 THEN 5050
5040 ANS=NM2*DIF:IF ANS(10 THEN ? #6;"
 ";
5045 ? #6;ANS;"?WHAT▣";NM2;
5050 GOTO 5999
5999 E1=1:E2=1:CNT=0:RETURN
7000 FOR W=35 TO 1 STEP -1
7010 POSITION 8,17:? #6;DIF;"   ";:FOR
 WW=1 TO W:NEXT WW:SOUND 0,W*4,10,8
7011 POSITION 8,17:? #6;" ";DIF;"  ";:
FOR WW=1 TO W:NEXT WW
7012 POSITION 8,17:? #6;"  ";DIF;" ";:
FOR WW=1 TO W:NEXT WW
7013 POSITION 8,17:? #6;"   ";DIF;:FOR
 WW=1 TO W:NEXT WW:NEXT W:SOUND 0,0,0,
0:POSITION 8,17:? #6;"WHAT":GOTO 5000
32000 DIM PR$(50),N1$(10),N2$(10):CB=P
EEK(106)-4:POKE 106,CB:PR$(1,41)="hh,T0
h,Nhh,T}v,L}◆,M"H◆1L,NHPyfMfOhdTPP◆♥"
32010 GRAPHICS 1:Z=CB*256:A=USR(ADR(PR
$),Z,4):FOR W=Z+472 TO Z+511:READ D:PO
KE W,D:NEXT W:DIM P$(15)
32020 FOR W=Z+224 TO Z+263:READ D:POKE
 W,D:NEXT W:POKE 756,CB:RETURN
32760 DATA 8,8,20,28,54,127,107,65,8,8
,8,28,85,85,127,73
32761 DATA 16,8,16,8,16,8,16,8,65,164,
0,140,33,8,161,138
32762 DATA 255,0,0,255,255,0,0,255,0,0
,254,0,0,254,0,0
32764 DATA 16,16,16,254,16,16,16,0,0,0
,0,254,0,0,0,0,0,16,0,254,0,16,0,0,130
,68,40,16,40,68,130,0
```

```
0 REM ******************************
1 REM **Atari Computer Enthusiasts**
2 REM **    3662 Vine Maple Dr    **
3 REM **     Eugene, OR 97405     **
4 REM **          $12 year        **
5 REM ******************************
6 REM ******* October 1984 *********
7 REM ******************************
8 REM *SPELLBOUND by Sydney Brown *
10 RESTORE 32000:GOSUB 20000:GOSUB 100
00:WORD=0:LR=0:LW=0:RIGHT=0:WRONG=0
100 POSITION 1,7:? #6;"WRONG]]    ]]RI
GHT]]]]0]]]]     ]]]]0]]]"
199 GOSUB 999:POSITION 0,1:? #6;WK$:GO
SUB 400:WORD=WORD+1:POKE 764,255:HP=4:
POSITION HP,1:? #6;C1$
200 EN=1:CLOSE #1:OPEN #1,4,0,"K:":GET
 #1,A:IF A=155 THEN RUN
201 IF A(65 OR A)90 THEN 200
202 IF LL(A-64)=1 THEN 200
203 LL(A-64)=1:FOR W=1 TO L:IF W$(W,W)
=CHR$(A) THEN EN=0:POSITION PP+W-1,15:
? #6;CHR$(A):GOTO 210
204 NEXT W:IF EN=0 THEN 200
205 POSITION LW,18:? #6;CHR$(A):LW=LW+
1:GOSUB 500:IF LW)19 THEN LW=0
206 GOTO 200
210 LR=LR+1:GOSUB 550
211 IF LR=L THEN POP :FOR W=1 TO 255:S
OUND 0,W,10,6:NEXT W:LR=0:LW=0:POSITIO
N 0,18:? #6;WK$:GOTO 580
220 IF LR()L THEN NEXT W:GOTO 200
299 SOUND 0,0,0,0:GOTO 199
400 IF LEV=1 THEN RESTORE 4000:NUM=N1:
INC=0.25
401 IF LEV=2 THEN RESTORE 3000:NUM=N1+
N2:INC=0.25
402 IF LEV=3 THEN RESTORE 2000:NUM=N1+
N2+N3:INC=0.5
403 IF LEV=4 THEN RESTORE 1000:NUM=N1+
N2+N3+N4:INC=0.5
409 RR=INT(RND(0)*NUM):FOR W=0 TO RR:R
EAD W$:NEXT W:POSITION 2,15:? #6;"
         "
410 L=LEN(W$):PP=10-L/2:POSITION PP,15
:FOR W=1 TO L:? #6;"_";:NEXT W
480 POSITION 0,23:? #6;"
  ";
490 POSITION 0,22:? #6;"ENTER YOUR GUE
SS NOWPLEASE ";N$;:FOR W=1 TO 26:LL(W)
=0:NEXT W:RETURN
500 HP=HP-INC:SOUND 0,55,6,14:FOR ZZ=1
 TO 77:NEXT ZZ:SOUND 0,0,0,0
510 POSITION HP,1:? #6;C1$;" ":IF HP)0
.25 THEN RETURN
520 HH=11:WRONG=WRONG+1:POSITION 11,1:
? #6;" ":GOTO 600
```

```
550 HP=HP+INC:FOR ZZ=30 TO 0 STEP -1:S
OUND 0,14,10,ZZ/2:NEXT ZZ:SOUND 0,0,0,
0:IF HP)7 THEN RETURN
560 POSITION HP-1,1:? #6;" ";C1$:IF HP
(8 THEN RETURN
580 HP=INT(HP):POSITION 0,1:? #6;WK$:I
F HP)7 THEN HP=7
585 FOR W=HP TO 7 STEP 1:POSITION W,1:
? #6;" ";C1$:SOUND 0,W*10,8,10:FOR Z=1
 TO 100:NEXT Z:POSITION 8,1:? #6;" "
590 NEXT W:HH=8:RIGHT=RIGHT+1
600 FOR W=2 TO 10:POSITION HH,W:? #6;"
)":SOUND 0,(W-1)*20,10,6:FOR WW=1 TO 1
4:NEXT WW:POSITION HH,W:? #6;" ":NEXT
W
610 SOUND 0,49,8,14:FOR W=1 TO 49:NEXT
 W:POSITION HH,10:? #6;"▣":SOUND 0,14,
8,14:FOR W=1 TO 35:NEXT W:POSITION HH,
10:? #6;" "
620 FOR W=60 TO 0 STEP -1:SOUND 0,14,8
,W/4:NEXT W:SOUND 0,0,0,0
625 IF HH=8 THEN 800
630 FOR W=1 TO 9:POSITION 1,15:? #6;"
                   ":FOR WW=1 TO 35:NEXT
 WW:POSITION PP,15:? #6;W$
635 SOUND 0,W*20,10,10:FOR WW=1 TO 35:
NEXT WW:SOUND 0,0,0,0:NEXT W
650 POSITION 16,8:? #6;RIGHT:POSITION
3,8:? #6;WRONG:GOSUB 999
699 POP :LR=0:LW=0:POSITION 0,18:? #6;
WK$:GOTO 199
800 FOR W=1 TO 7:SOUND 0,RND(0)*100+15
4,10,10:POSITION 19,0:? #6;"=":POSITIO
N 19,1:? #6;" ":FOR WW=1 TO 21:NEXT WW
:SOUND 0,0,0,0
810 FOR WW=1 TO 21:NEXT WW:SOUND 0,RND
(0)*100+2,10,10:POSITION 19,0:? #6;" "
:POSITION 19,1:? #6;"=":FOR WW=1 TO 21
820 NEXT WW:SOUND 0,0,0,0:FOR WW=1 TO
21:NEXT WW:NEXT W:GOTO 650
999 POSITION 0,22:? #6;"I AM THINKING
OF A  NEW WORD FOR YOU    ";:RETURN
1000 DATA LUGGAGE,AUSTRALIA,CONTROL,RE
GISTER,ASSIGN,INTERRUPT,SELECTED,INFOR
MATION,AUXILLIARY,MISSILE,HORIZONTAL
1010 DATA VERTICAL,DECORATION,OBJECTIV
E,ADHESIVE,PLASTER,DETERGENT,APPLICATI
ON,DOCUMENT,INVISIBLE,ADVISABLE,MAJORI
TY
1020 DATA INCORPORATED,ETERNAL,DELAPID
ATED,SCHEDULE,REFERENCE,CARTRIDGE,INTE
RPRETER,DIMENSION,ACTUALLY,CHARACTER
1030 DATA CAPACITY,CAPABILITY,LANGUAGE
,EXPERIMENT,RESOLUTION,AUTOMATIC,DIAGR
AM,REQUIREMENT,MANUFACTURER,FUNDAMENTA
L
1040 DATA PASSENGERS,RESISTANCE,SEPERA
```

```
TELY,DETERMINATION,CONTRIBUTE,DYNAMITE
,ABRUPTLY,SUBDIVIDE,HURRICANE,COMPANIO
N
1050 DATA SUSPICIOUS,ATTENTION,OCCUPAN
T,UNDERSTANDING,DRAMATICALLY,APPRECIAT
E,TELEVISION,IMMENSELY,MELANCHOLY
1060 DATA SIMILARITY,INSTRUMENT,DESTIN
ATION,EXPONENTIAL,TREASURER,COMMERCIAL
,PARLIAMENT,DEPARTMENTAL,EXPERIENCED
2000 DATA PRIEST,SCHOOL,SCRAPE,REPAIR,
FATHER,COLOUR,OUTPUT,PROCEED,FORMAL,PO
SITION,FINISH,COLLISION,TRIGGER,ALMOST
2010 DATA MAGNET,SECURE,FIRMLY,CONTACT
,TUCKED,ADHERE,FUTURE,PRACTICE,STROKE,
SATISFY,COMMAND,ENLIST,MINUTE,UTILITY
2020 DATA EXCUSE,RATHER,ASSUME,NORMAL,
BUDGET,INCREASE,UNLOCK,LOCATION,VERDIC
T,COMPOSER,MANUAL,SECTOR,RELATIVE
2030 DATA SUSPECT,SOCKET,SPANNER,SCREW
DRIVER,INITIAL,PHRASES,HURRICANE,SCREA
M,CAPTAIN,DESERT,BUTTON,BULLET,EFFECT
2040 DATA SOLDIER,CIVILIAN,ADMITTED,NA
TIONAL,GENERAL,ELECTION,PRINCE,PRINTER
,TRAGEDY,ATTACK,COUNCIL,POSTCODE,JUSTI
CE
2050 DATA WRAPPER,MOVING,SUFFER,ATTEMP
T,OUTRAGE,PREVENT,RECIEVE,RETURN,CENTR
AL,CENTRE,CURRENT,CURRANT,PASSPORT
2060 DATA PLEASE,INSIDE,OUTSIDE,DROUGH
T,DEALER,SALVAGE,PROGRESS,CONDITION,VO
LUME,SWITCH,CONTRAST,SERVICE,FANTASY
3000 DATA PLANE,PIPE,FISH,START,GLUE,S
AFE,TOXIC,HOME,WORK,HANG,CLEAN,NEED,KN
EAD,MONEY,COIN,KIND,WILL,EASY,FOUR,SID
E
3010 DATA TOUCH,RULER,PRESS,LEAVE,AVOI
D,MOST,GROIN,GRAIN,GROAN,HAUL,OBEY,WAS
P,HELP,SPELL,TYPE,TITLE,NAME,PRINT,MUS
IC
3020 DATA THUMB,TRACE,CLOSE,USED,FOOT,
BLOW,WRITE,AFTER,SCORE,AGAIN,RESET,TIM
E,HOUR,HILL,LIST,CURVE,FLOW,ARMED,KING
3030 DATA RIFLE,HERO,FACT,SEDAN,MALE,M
AIL,RIGHT,WRONG,SPLIT,CREW,SHIP,PAIR,P
EAR,FIST,DECK,ITCH,FIRST,OPEN,COLD,LEA
D
3040 DATA CARE,SOLID,WITH,GLARE,ECHO,H
AND,WIDE,TRACE,CABIN,MATCH,FLARE,GRIM,
BEGIN,INTO,ABOUT,ENTER,COVER,STRIP
3050 DATA DATA,FEAR,TWIST,CRUEL,HOLD,D
OOUR,STINK,SPACE,FOOD,AREA,PAID,SURE,P
OINT,PLATE,SHORE,ROUND,POOR,ROSE,LATE
3060 DATA START,LEAVE,TENSE,CLOWN,PAPE
R,SAND,BEACH,BENCH,PRINT,STOOP,SUPER,S
TAND,SLIDE,VOICE,DEAL,SOUND,SPILL,FINE
3070 DATA SKID,SHARP,SKIN,SCOOP,PEEL,R
OUGH,PLAY,ROOM,BROOM,ROLL,BASIC,ROCK,N
IGHT,RING,EJECT,POPE,FIGHT,LASER
4000 DATA CAP,SAP,IN,TOO,TWO,TO,OUT,AN
,THE,BAR,CAR,TAR,FOR,ONE,SIX,ICE,ART,T
EN,YOU,BUT,OUR,BE,OWN,BEE,FLY,WAS,YES
4010 DATA KEY,IT,GUN,ODD,PIN,LAY,LIE,D
YE,DIE,STY,EYE,END,AND,SEE,SEA,ME,HIM,
TRY,HAD,HAS,HIT,NOT,OUR,MAY,CAN,TOP,CU
T
4020 DATA TIN,BOX,TOP,NEW,ARE,FAR,BUG,
USE,TOY,LET,US,ASK,ALL,DID,NOT,BY,BUY,
BIT,AND,IT,NO,SO,SOW,OR,SET,SON,SUN
4030 DATA PAD,AIM,AIR,SKY,AGE,ACE,TIE,
POD,GOT,GET,DO,PAT,PET,HOT,HAT,KIT,BOY
,SHE,BED,MUD,DIM,DOT,PIT,TIP,OLD,BAT
4040 DATA IS,ILL,SET,OF,OFF,RUN,HAS,HA
D,HAT,NEW,FLY,ART,SIP,ANT,BUT,DUE,YET,
NOT,WHO,WHY,BUG,TAP,PUT,APE,EAT,ATE
4050 DATA ADD,ACT,MY,MET,AGO,AID,BIN,L
AD,ANY,BAY,AXE,FIX,WE,RED,INK,TAX,USE,
DAM,DAY,WAY,DEN,JOB,BID,ZIP,EGG,FRY
4060 DATA LOT,BEG,BID,RAM,KID,ALL,FAR,
FAN,FAT,LOW,MOW,MY,GAS,LAW,GAY,SAY,GYM
,GUM,GUN,GO,IT,GAP,DIP,LET,HAM,PIE,SIP
10000 DIM P$(46),C$(50),C1$(12),W$(15)
,WX$(20),LL(26):C$="
10001 C1$="
10002 P$="
10005 CH=INT(C/256):CL=(C-CH*256):P$(2
1)=CHR$(CL):P$(22)=CHR$(CH):XH=INT((P+
41)/256):XL=(P+41)-(XH*256)
10010 P$(16)=CHR$(XL):P$(17)=CHR$(XH):
P$(33)=CHR$(XL):P$(34)=CHR$(XH):POKE 5
12,PL:POKE 513,PH
10020 DL=PEEK(560)+256*PEEK(561):POKE
DL,240:FOR W=DL+6 TO DL+28 STEP 3:POKE
 W,134:NEXT W:POKE DL+28,7
10030 POKE DL+1,0:POKE DL+23,7:POKE DL
+3,71:RETURN
20000 CB=PEEK(106)-2:POKE 106,CB:GOSUB
 30000:A=CB*256:FOR B=0 TO 511:IF B<43
2 THEN POKE A+B,PEEK(57344+B):NEXT B
20002 FOR B=0 TO 511:IF B<472 AND B>26
3 OR B<224 THEN POKE A+B,PEEK(57344+B)
:NEXT B
20005 READ D:POKE A+B,D:NEXT B:POKE 75
6,CB:POSITION 0,0:? #6;"
20006 POSITION 0,2:? #6;"
^^^^^^^^":FOR W=3 TO 12:POSITION 0,W
20010 ? #6;"
]]]]]]]]";:NEX
T W:? #6;"
[]]]]]]]]";:? #6;
"
20012 ? #6;"
";:? #
6;"
":POSITION 0,0:
? #6;"      spellbound":POSITION 3,19
20015 ? #6;"wrong  guesses"
29999 POKE 54286,192:RETURN
30000 GRAPHICS 1:POSITION 5,0:? #6;"
ellbound":POKE 710,0:POKE 711,94:POKE
708,140:POKE 712,22:POKE 709,222
30010 DIM N$(12):DL=PEEK(560)+256*PEEK
(561):POKE DL+3,71
30020 ? :? :? :? "
ampion Australia";:POKE 656,0:POKE 657
,0
30900 TRAP 30900:POSITION 0,15:? #6;"
 please enter your      name and then
     press  return":INPUT N$:TRAP 4000
0
30910 GRAPHICS 17:POKE 712,6:POKE 708,
222:POKE 710,142:POKE 709,94:OPEN #1,4
,0,"K:"
30920 POSITION 0,0:? #6;"HI ";N$;? #6:
? #6;"PLEASE SELECT YOUR  LEVEL. (1,2,
3,4)":? #6:? #6;"
30930 GET #1,LEV:LEV=LEV-48:IF LEV<1 O
R LEV>4 THEN 30930
30940 ? #6:? #6:? #6;"       LEVEL ";L
EV
30950 POSITION 0,14:? #6;"i am just se
lecting some words for you, i won't be
 long."
30960 N4=70:N3=93:N2=151:N1=186
30999 RETURN
32000 DATA 137,74,18,180,149,84,20,60,
60,126,219,255,153,195,102,60,60,126,2
19,255,231,195,102,60
32010 DATA 255,128,183,165,165,183,128
,255, 0,0,170,85,0,0,0,0,1,3,7,15,29,6
3,95,255,128,192,160
32020 DATA 248,248,252,222,255,251,255
,191,255,253,255,223,255,52,126,191,25
5,253,255,223,255
32030 DATA 0,0,0,0,0,127,0,0
```



SynTalk

I was recently privileged to talk with Brian Lee of Synapse Software. Two years ago, he was hired away from The Gap clothing stores where he had developed operational and accounting systems based on an Atari system. We have all noticed some dramatic changes in the software marketplace, and Synapse seems to be adapting well to these changes.

JB: Synapse has a reputation as a primo game company, although you've had good applications like SynAssembler and Filemanager+. One of the most exciting developments has been the SynAps packages. What part have you had in this development?

BL: I joined Synapse specifically to expand the product line into these areas. My background is finance.

JB: Sounds like we have you to credit for the SynAps series.

BL: I basically established the division, specked out the products, helped code a couple of them, wrote two of the manuals, did most of the packaging and coordinating for the programs.

JB: How has this marketing arrangement worked with Atari?

BL: We developed the programs and entered into a distribution agreement with Atari. We retained ownership of the product.

JB: I imagine the upheavals at Atari have made this agreement less valuable than it looked at first.

BL: That is correct. There have been a number of problems with the agreement. At this point the agreement has been cancelled by Synapse. The products formerly available from Atari under this agreement are now available directly from Synapse. We have also changed the pricing structure. They are now available at a suggested retail of $69.95 each for SynFile, SynCalc and SynTrend, and $39.95 for SynComm, SynChron and SynStock.

JB: Are there other packages in this series which are slated?

BL: Beyond these six right now, no.

JB: We heard reference to something called SynText, a word processor.

BL: SynText was in the original design specs. When we signed the agreement with Atari, part of the agreement required non-competition with AtariWriter, or any other Atari applications program, preventing us from doing a word processor.

JB: Are there plans to expand this product line in the immediate future?

BL: In the immediate future I do not have any applications products which will appear before Christmas. I still have product specs, but their appearance is more distant.

JB: What other directions in software is Synapse taking now?

BL: We are involved in a number of hardware developments (the Relax package is an example of this). But we are branching into another entertainment area called "electronic novels". They are interactive text adventure games. They have a different dimension to them. These are coded in C and will be available on a number of systems in addition to Atari. We've put in some artificial intelligence and real time features. The major difference from current adventure games is the presence of independent characters who act entirely independent from the player's actions throughout the scenario. They pick up objects, move them around from place to place. You can command certain other characters, pose hypothetical questions, query them about events occuring anyplace within the scenario. They each have a certain intelligence level and personality which determine what type of response they give you. If you don't respond within a certain period of time, events will continue to happen.

JB: What about Synapse's view of changes in the software market in general?

BL: The whole industry is in a state of flux right now. We've seen an erosion in the distribution network. We find ourselves offering more product directly to the user. Many distributors are cutting back on their handling of game software, and many others have gone bankrupt.

JB: What does this indicate about the market for games?

BL: There's no question the market for games has declined. Particularly for arcade-type games. This was one reason for our move about a year ago into adventure games and fantasy role playing games, in anticipation of this change. We have not released a game in a long time, and that's going to change in the next couple of weeks.

JB: Seems like there's a lot more scope for variety in the adventure and fantasy role playing games you're describing rather than the arcade games.

BL: Arcade games fall into some half dozen categories, and once you have a game of each type, you've covered the gamut. The adventure games we're developing we're calling electronic novels. The system we use is an adventure game generation language coded in C. We can hire professional writers to create the games. They don't have to know anything about programming. This will add a new level of quality to the writing in these games. In addition to that, we're doing some long term work for other manufacturers, IBM is one.

JB: Obviously in applications areas.

BL: Actually we're doing some games for them. We've already done Shamus on the IBM. We're doing Alley Cat also. Alley Cat will be coming out soon.

JB: What about third-party software support for Atari users in the future?

BL: Third party companies will, as a general rule, do that which makes economic sense.

JB: There's a big Atari market out there. What do you think makes economic sense? How long is that market, in your view, going to be viable?

BL: It will be viable so long as the hardware continues to be sold. There are an awful lot of TIs out there, but there is not a market for software for the TI99. That would certainly hold true for the game market. In the case of applications software, it is still true, but there might be some differences. We will continue with Atari products as long as Atari hardware continues to be sold. If new machines are released, it is likely we will support them.

JB: There is interest in the Atari community about the Amiga computer.

BL: That interest is certainly justifiable. Amiga is now wholly owned by Commodore. The release date has been postponed until 1985. The Tramiel lawsuits may cause further delays.

JB: Do you mean the trade secrets injunction?

BL: No, the trade secrets injunction was against the Amiga engineers. He's filed a $100 million lawsuit against Amiga for fraud and punitive damages. He's alleging Amiga signed an agreement promising to provide the Amiga chips for Atari use in some future product. Atari had provided $500,000 and was going to come in as a major investor. For an undercapitalized company that's attractive. He alleges Amiga returned the half million dollar check and said the chips don't work. It's a 3-chip set which then combine with the 68000.

There are no significant technical problems with the chips. In fact, their first cut in the silicon worked on the first try. To coordinate 3 chips, all of which have the same real estate size as the 68000, and get them to talk to each other, to work the first time, is amazing. They had some minor problems, but were able to get around them with software. This indicates the lack of severity of the problem.

The machine is easily the most amazing piece of hardware to appear in the last three years. It's very much like an Atari; in its general architecture, concept — they really did their homework. It's a very open architecture, with an incredible number of open DMA channels. Everything works in parallel. The graphics and sound processing are handled on a DMA basis. It's a very well designed machine.

JB: Thankyou, Brian Lee, for taking the time for this interview.

— Jim Bumpas.

STARPAD

STARPAD (vendor and price unknown) stands for Space Time Adventure Recorder with Perspective in All Dimensions. As a member of A.C.E., I just have to tell you about this one. The program can be found advertized in the back of most magazines. It is a CAD (computer aided design) program.

The first and foremost thing I want to say about this program is "How did they get it to do that?" The program allows you to draw in 2-D and 3-D! Then the object may be rotated fast or slow with joystick or keyboard to any desired angle. The object may be made to appear smaller or larger, simulating 3-D movement away or towards you! This facet of the program is truly extraordinarily fascinating.

The image you draw is kept in an IDF (Image Data File) which you can call upon whenever you wish to store on disk for later editing, etc. The program is "A calculating powerhouse, an image drafting and recording instrument." The amount of mathematics involved in the rotation of an object is mind boggling, especially the 3-D image. The program calculates all the coordinates used for the rotation at lightning speed. So the rotation is almost silky smooth, view to view to view. In essence, the program is a CAD system. To draw there is even a grid system for you to use so all the images will draw easier. This grid does not become part of your drawing.

If you thought drawing in 3-D was difficult, well give this one a try. It ends up being a piece of cake! The program is menu driven throughout and easy to follow.

My highest praises go to the designer of this program. My suggestion is if you like graphics this is a good program and worth every penny. It also allows you to draw in other colors.

— Stephen E. Warn
East Helena, MT

SynChron

Synapse Software Corp., 5221 Central Ave., Richmond, CA 94804, $39.95

SynChron is just one of the many new programs Synapse has developed to work together as a unit or separtely if one wishes. As the program says, this is a personal appointment management program. It will remind you what you should do today or next year. The only catch in all of this is you must use it everyday or it won't work. This means you must not only look at it, but you must enter those things you want to be reminded of in time to do them.

The program is fairly simple to use. After inserting the program in the disk drive and booting it up you must then remove the program disk and put in a formatted disk to get started. Once this is done a simple menu comes up to allow you to either read the disk upon which you have placed prior appointments, or to add the appointments or information you wish to be reminded of in the future.

If you haven't read the instructions it will take you sometime to figure out how to get around in the program to do what you wish. If you have read the instructions then you will know the arrow keys will take you through the program plus of course the ever faithful return key.

There is a keyword menu which by bringing up this section gives you keywords so you will know at a glance about birthdays, golf games, bills to be paid, etc., without having to go through the whole program to find something. There is also a password menu which will keep the disk from being used by anyone not knowing the password. The only problem with this is if you have to remember too many passwords you may not be able to remember the one you want and therefore you won't be able to access the disk.

You can print out the day's appointments, the month's appointments or even the year's appointments or anything else you have listed on your data disk. This makes it quite handy to be able to carry with you a hard copy of the appointments, or just have when you need it and not have to go back to the computer to see what you have to do.

Everyone has need of this program but unless you are willing to sit down at your computer each and every day and put in the new data and of course read the old then forget this program. I for one find I do need this type of program and in the short time I have used it, it has saved me from making several appointments for the same time and has reminded me of several bills needing to be paid. This alone has made the program worth while.

The instructions are complete and most through and at the same time very simple to follow. There is also a tutorial to help you with any questions or problems you might have.

This new series of programs from Synapse makes the use of them a total integrated system as all the files can be used in each of the other programs. While you may not need them all there are some you can use. There are now six of these programs in the series and more to come. How many more I don't know, but if they are as good as the ones now available they should be good and fit right in.

— Larry Gold

LDA ATARI

(reprint: Peoria A.C.E. September, 1984)

I should subtitle this article "Fun with Boolean" because that is what we're going to touch upon here. No, we're not going to use it for some heavy binary math, to write a spelling checker or even to calculate Pi to the 10,000,000 digit. We'll use it to interpret our favorite peripheral, the joystick. This article is slanted towards BASIC XL users, although everyone can benefit no matter what your language of choice.

I'm sure most of you have written a joystick routine. You dig out the Atari Basic Reference Manual, figure out the number for each position, and more than likely code something like this:

```
10 X = STICK(0)
20 IF X = 14 THEN GOSUB UP
30 IF X = 6 THEN GOSUB UP:GOSUB RIGHT
40 IF X = 7 THEN GOSUB LEFT
50 IF X = 5 THEN GOSUB DOWN:GOSUB LEFT
60 REM ... and so on ...
```

This bugger is a real time waster, because it tests every possible value for the stick. There are definitely better ways to approach the problem. I've read articles with some really nice equations for reading the stick which cut down the code. Using BASIC XL Hstick and Vstick functions is short and simple as well. However, the method I will show you is also shorter and very fast, due to the fact we'll be using the BASIC XL "&" function (the bitwise AND). This function is also a machine level instruction called, reasonably enough, AND. I give the truth table below:

AND Truth Table

A	B	X
0	0	0
0	1	0
1	0	0
1	1	1

This means if we compare two bits, A and B, the only combination which will produce a logic 1, or true condition, is if both bits are logic 1 already. Any other bit condition will produce a logic 0, or false condition.

All this doesn't mean much to our quest for easier joystick reading, until we stop to consider just how a joystick is set up and read. A joystick is a four bit device, not counting the trigger. Each of the four bits has a meaning, which are right, left, down and up. It is combinations of these conditions which give us the diagonal positions. We'll use this to make our routine. Here's an idea of how the stick looks to the Atari:

Value:		8	4	2	1
	Right	Left	Down	Up	
Bit:		3	2	1	0

0 = stick pressed
1 = stick not pressed

So, say the stick value is 10, which means the stick is up and to the left. This also means bits two and one will be 0, or stick pressed. Knowing this information, we can do only four tests instead of the normal eight tests for stick position. And because we're using "&", we'll get some extra speed. The program showing this is below:

```
10 REM BASIC XL BOOLEAN STICK READ
20 REM BY MIKE YOCUM 8-10-84
30 X = STICK(0)
40 IF X&8 = 0 THEN GOSUB RIGHT
50 IF X&4 = 0 THEN GOSUB LEFT
60 IF X&2 = 0 THEN GOSUB DOWN
70 IF X&1 = 0 THEN GOSUB UP
80 GOTO 30
```

All of this may make you scratch your head a bit at first, but there are two direct benefits from figuring it out and using it. You're speeding up your program (if even by a fraction), and you're closer to understanding how the Atari "sees" things. I first wrote this routine in assembly language for a game screen I've been writing, and then translated it to BASIC XL using the "&" function. It works really well. Unfortunately, neither Atari BASIC nor Microsoft BASIC include a bitwise AND, only a logical AND testing whether or not two or more conditions are true. Action! does support bitwise AND, but then Action! is closely tied to machine language. However, I have included a program implementing the bitwise AND as a USR function, to be called as:

X = USR(ADR(ML$),1st byte,2d byte)

It will take two byte sized values (that is, an integer between 0 and 255, inclusive) and return their ANDed equivalent to the variable X. I'll first include the assembly language version, then a BASIC version for inclusion in a BASIC program.

```
0100 ; Bitwise AND from BASIC
0110 ; by Mike Yocum 8-13-84
0120 ; called from BASIC as:
0130 ; X = USR(ADR(this routine),1st byte,2d byte)
0140 FIRSTBYTE = $CB
0150 RESULT = $D4
0160 * = $0000 ; relocatable
0170 PLA ; pull arg count
0180 PLA ; hi byte of 1st
0190 PLA ; lo byte 1st
0200 STA FIRSTBYTE ; store it
0210 PLA ; hi byte of 2d
0220 PLA ; lo byte of 2d
0230 AND FIRSTBYTE ; do the AND
0240 STA RESULT ; store it
0250 LDA #0 ; clear hi byte
0260 STA RESULT + 1 ; of RESULT
0270 RTS ; back to BASIC
```

```
BASIC Listing10 REM Bitwise AND for Atari BASIC
20 DIM ML$(16)
30 FOR X = 1 TO 16
40 READ Y
50 ML$(X,X) = CHR$(Y)
60 NEXT X
70 DATA 104,104,104,133,203,104,104,37,203,133,212,169,0,133,213,96
```

You industrious folks should note you can incorporate a bitwise OR (BASIC XL's "•") by changing the 37 in the DATA statements to a 5, and you can do a bitwise Exclusive OR (BASIC XL's "!") by changing the 37 to a 69.

That's about it for now. This should be enough to keep you busy for at least an evening!

— Mike Yocum

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